

AMENDMENTS TO THE CLAIMS:

Please cancel without prejudice claim 17 and amend claims 15, 18 and 25 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-14. (cancelled)

15. (currently amended) An optical fibre having a core ~~of which~~ comprising:
a first longitudinal portion ~~is of~~ generally constant cross-sectional area and ~~is covered by~~
an inwardly facing reflective coating to cause electromagnetic radiation to travel along the first
longitudinal portion of the core by means of internal reflection, and
a second longitudinal portion ~~is covered by~~ a cladding material having a refractive index
suitable for guiding the electromagnetic radiation along the second longitudinal portion of the
core, ~~and wherein~~ the cross-sectional area of the first longitudinal portion of the core and its
associated coating is less than the cross-sectional area of the second longitudinal portion of the
core and its associated cladding, wherein the end of the cladding material is tapered and the
thinnest portion of the taper is directed towards the first portion of the core.

16. (previously presented) An optical fibre, as in Claim 15, in which an intermediate
longitudinal portion of the core is positioned between the first and second longitudinal portions,
an end of the cladding material terminates in the intermediate longitudinal portion, and at least
part of the exterior of the cladding material of the intermediate portion is covered by an inwardly
facing reflective coating.

17. (cancelled).

18. (currently amended) An optical fibre, as in Claim ~~15~~15, in which the exterior of the tapered end of the cladding material has an inwardly facing reflective coating.

19. (previously presented) An optical fibre, as in Claim 18, in which the reflective coating is thickest at the thinnest part of the taper.

20. (previously presented) An optical fibre, as in Claim 15, in which a layer of cladding material is positioned between the core and the reflective coating of the first longitudinal portion, this layer of cladding material being substantially thinner than the cladding of the second portion of the core and sufficiently thin to permit electromagnetic radiation to travel along the first portion of the core by internal reflection.

21. (previously presented) An optical fibre, as in Claim 15, in which the first portion of the core has a different cross-section to the second portion of the core.

22. (previously presented) An optical fibre, as in Claim 15, in which the first and second longitudinal portions of the core are formed from different materials.

23. (previously presented) An array of optical fibres comprising a plurality of optical fibres according to any preceding claim, in which the first longitudinal portions of the optical fibres are arranged closely side-by-side.

24. (previously presented) An array of optical fibres, as in Claim 23, in which one end of each of the optical fibres terminates in an electromagnetic radiation detection device.

25. (currently amended) A fibre optic coupling arrangement for coupling a light pipe to a clad optical fibre, the coupling arrangement comprising:

a light pipe comprising an optical fibre core having a reflective coating; and

a clad optical fibre comprising an optical fibre core with cladding surrounding the core, the optical fibre core of the light pipe being optically joined to the optical fibre core of the clad optical fibre such that electromagnetic radiation is able to travel from the light pipe to the clad optical fibre, wherein tapered cladding is provided in the region where the light pipe is optically joined to the clad optical fibre, wherein the cladding is a material having a refractive index suitable for guiding electromagnetic radiation along the clad optical fibre.

26. (previously presented) A fibre optic coupling arrangement as in Claim 25, in which the tapered cladding material is at least partially covered by an inwardly facing reflective coating.